

PLASMA SOURCE WITH SEGMENTED MAGNETRON CATHODE

Abstract

A plasma source includes a chamber for containing a feed gas. An anode is positioned in the chamber. A segmented magnetron cathode comprising a plurality of electrically isolated magnetron cathode segments is positioned in the chamber proximate to the anode. A power supply is electrically connected to an electrical input of a switch. A respective one of the plurality of electrical outputs of the switch is electrically connected to a respective one of the plurality of magnetron cathode segments. The power supply generates a train of voltage pulses that ignites a plasma from the feed gas. Individual voltage pulses in the train of voltage pulses are routed by the switch in a predetermined sequence to at least two of the plurality of magnetron cathode segments.